PREWIRED BAYS (23-INCH)

OPTION SELECTION, INSTALLATION AND PRETEST

This Section provides procedures to install, select options, and pretest the D448 11 ft 6 in. (600174-800), 9 ft (600175-800), and 7 ft (600176-800) prewired bays.

This Section has been reissued to expand Fig. 1 and to clarify the −48V TB installation.

Option selection consists of selecting different strapping options on the multiplex shelf backplane and fuse alarm and distribution panel (FADP). Installation consists of physically mounting the bay in a central office (C.O.) and making all external wiring connections. Testing consists of checking voltages on input battery, talk battery (TB), 20-Hz ringing, and −48-alarm battery source (ABS) for the proper connection and voltage levels.

CHART — PAGE

1—Inspection 1
2—Physical Installation 2
3—Option Selection 2
4—Electrical Installation 5
5—Pretest 10

CHART 1

INSPECTION

APPARATUS:

None

STEP	PROCEDURE
1	Remove equipment from shipping carton(s).
2	Perform an inventory to verify that all equipment listed on packing list is present.
3	Inspect the equipment for shipping damage. Report any damage to carrier immediately.

CHART 2

PHYSICAL INSTALLATION

APPARATUS:

1—Drill, 1/2-inch

1—9/16-inch cement drill bit

Standard hand tools as required (see Section ITTR-18-400)

STEP	PROCEDURE
1	Remove rear guard rail.
2	Using a 9/16-inch drill bit, drill required mounting holes (Fig. 1). Drill holes 1.6 inches deep.
3	Position bay over mounting holes.
4	Secure bay to floor (Fig. 2) using hardware supplied in cardboard box (ITT Part No. 600133-658-001).
5	Secure top of 9 ft or 11 ft 6 in. bay to overhead support (Fig. 3) using hardware supplied in cardboard box (ITT Part No. 600029-700-001).
6	Connect bay to adjacent bay (Fig. 4) using hardware supplied in cardboard box (ITT Part No. 600019-700-001).
7	Reinstall rear guard rail.

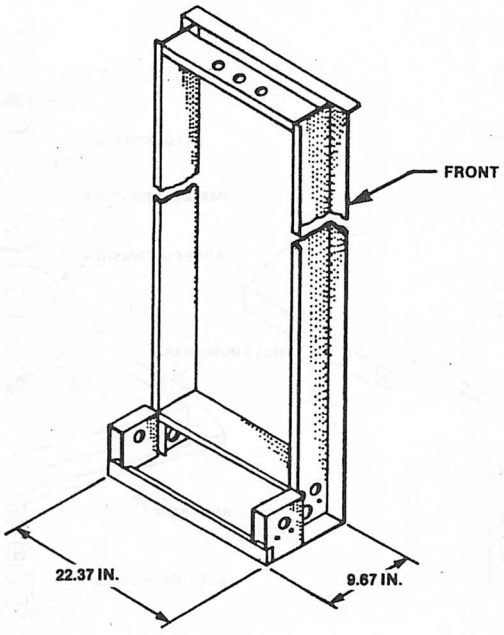
CHART 3

OPTION SELECTION

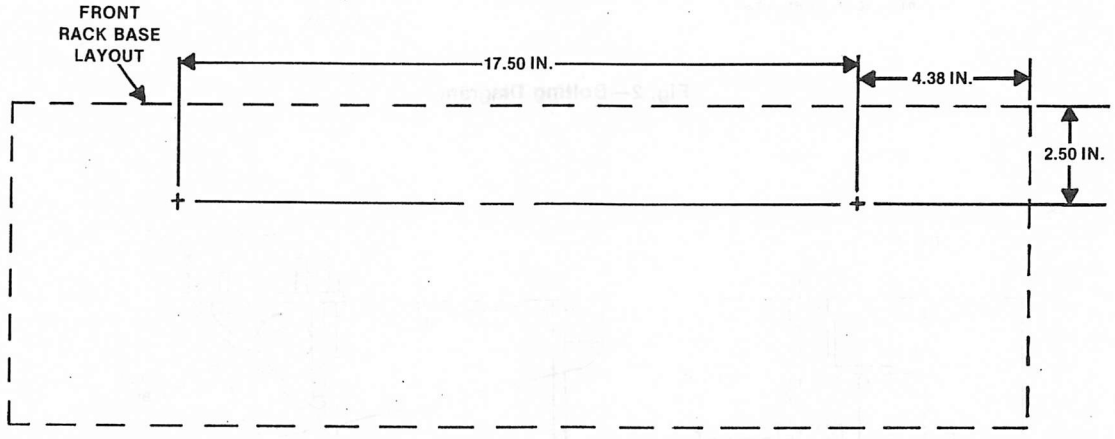
APPARATUS:

None

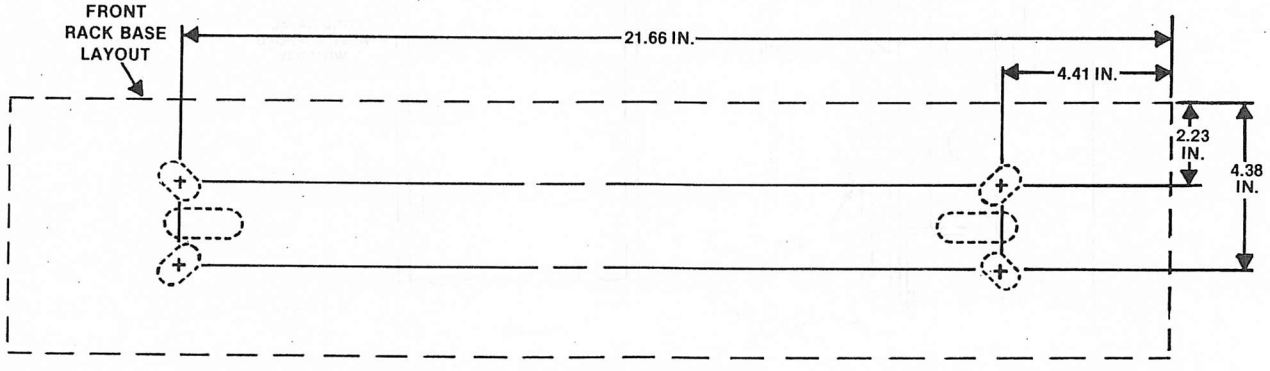
STEP	PROCEDURE
	Note: Option selection consists of selecting different strapping options on the multiplex shelf backplane and FADP.
1	For information on multiplex shelf option selection, refer to Section ITTR-18-405, Chart 3.
2	For information on FADP option selection, refer to Section ITTR-18-490, Chart 3.



11 FT 6 IN. BAY



2 HOLES REQUIRED
9 FT AND 11 FT 6 IN. BAYS



4 HOLES REQUIRED
7 FT BAY

Fig. 1—Floor Mounting Diagram

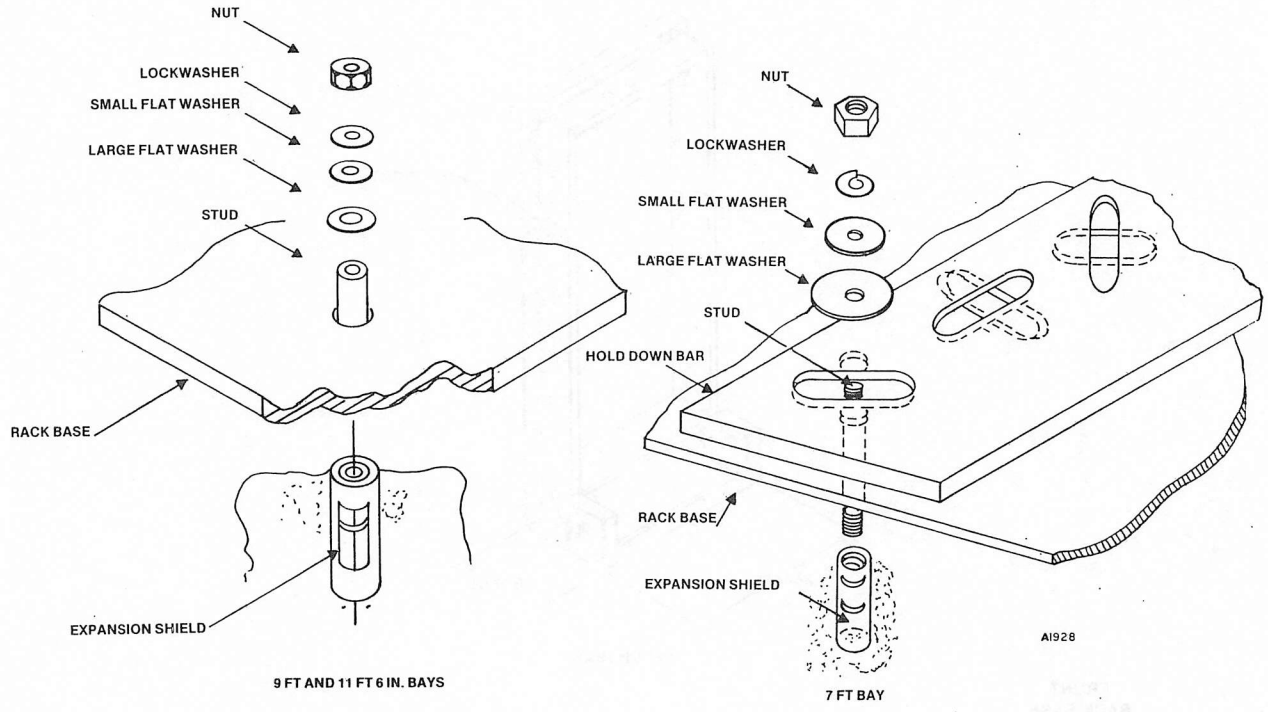


Fig. 2—Bolting Diagram

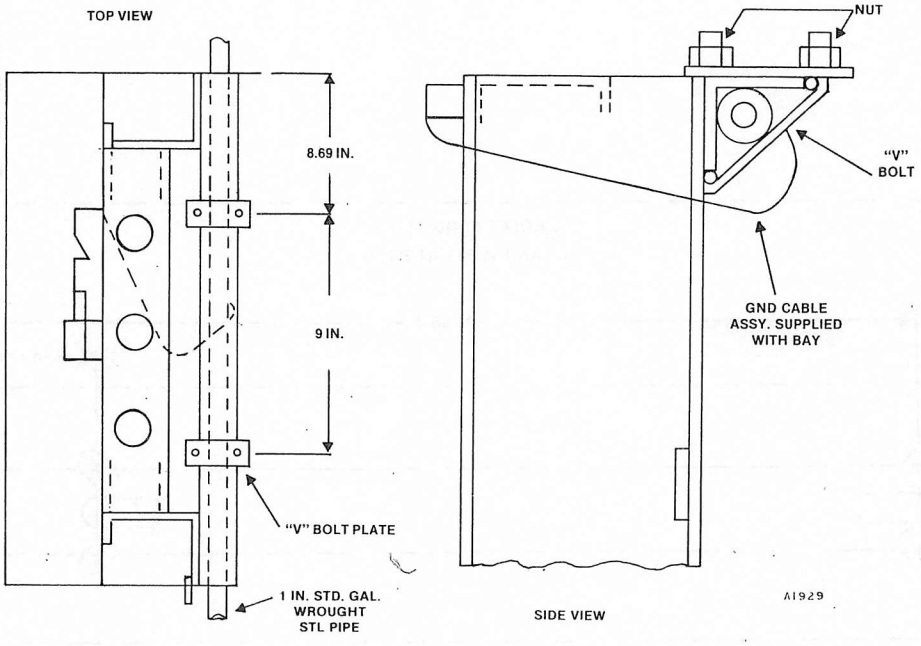


Fig. 3—Overhead Mounting Diagram

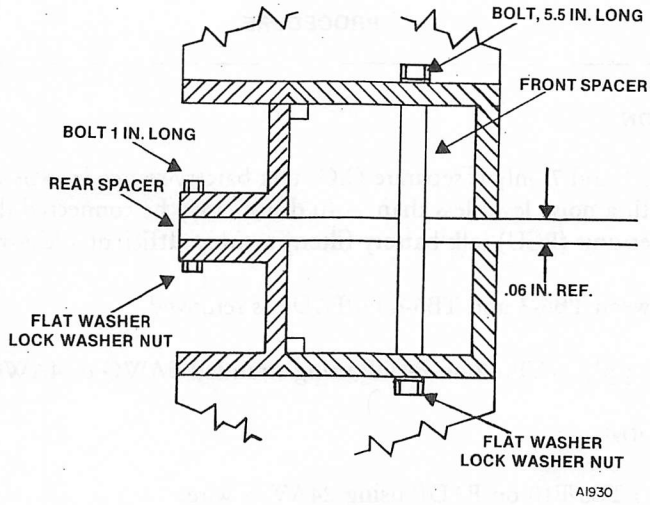


Fig. 4—Method of Joining Bays

CHART 4

ELECTRICAL INSTALLATION

APPARATUS:

Standard hand tools as required (see Section ITTR-18-400)

STEP	PROCEDURE
	PRELIMINARY
1	Remove office fuse supplying –48V office battery to FADP.
2	Remove office fuse supplying –48V TB to FADP.
3	Remove office fuse supplying 20-Hz ringing to FADP.
4	Remove all fuses from FADP.
	–48V BATTERY CONNECTION
	Note: Ensure prewired bay is grounded to C.O. ground (Fig. 3).
5	Connect –48V office supply to FADP (TB6-1) using stranded 6AWG or 4AWG wire.

CHART 4 (Cont)

STEP	PROCEDURE

– 48V TB CONNECTION

Note: Perform Steps 6 and 7 only if separate C.O. talk battery source is to be used on D448. Normally, C.O. talk battery with a noise level less than – 40 dBrnC may be connected directly to the FADP. The D448 power converter unit (PCU) talk battery filter provides sufficient additional filtering.

6 Verify that strap between TB6-3 and TB6-4 on FADP is removed.

7 Connect – 48V TB supply to TB6-2 on FADP using stranded 6AWG or 4AWG wire.

– 48V ABS CONNECTION

8 Connect – 48 ABS to TB8-E10 on FADP using 24AWG wire.

20-Hz NEGATIVE SUPERIMPOSED RINGING CONNECTION

9 Connect 20-Hz ringing supply to the following pins on FADP using ABAM-type cable or 24AWG solid twisted shielded pair cable (ITT Part No. 600015-100-241 or equivalent):

(a) 20-Hz to TB5-9
(b) Ringing ground to TB5-10
(c) Shield to TB5-11

DS1 (T1 HF) CONNECTIONS (MODE 3 ONLY)

Note: When using twisted shielded cable, terminate shield at only one end to avoid ground loop and attendant noise problems. Either end of shield may be left *floating* according to local company operating practices.

10 Connect DS1 (T1 HF) pairs to TB1 and TB7 on FADP as shown in Fig. 5 and 6 using ABAM-type cable or 24AWG solid twisted shielded pair cable (ITT Part No. 600015-100-241 or equivalent).

DS1C (T1C HF) CONNECTIONS (MODES 1 AND 2 ONLY)

Note: Installation of this cable is recommended when Mode 3 operation is being used if other modes are present in the office, future plans call for change out to another mode, or T1C tie points exist.

11 Connect DS1C (T1C HF) pairs to TB10 on FADP as shown in Fig. 7 using ABAM-type cable or 24AWG solid twisted shielded pair cable (ITT Part No. 600015-100-241 or equivalent).

ALARM CONNECTIONS

A. ESS and E2 Alarm Loops

12 Connect ESS and E2 alarm loops from FADP (Fig. 8) to office alarm connection points using ABAM-type cable or 24AWG solid twisted shielded pair cable (ITT Part No. 600015-100-241 or equivalent).

CHART 4 (Cont)

STEP	PROCEDURE

B. E2 Terminal Alarm, E2 Fuse Alarm, Audible Alarm, and Visual Alarm Loops

13 Connect E2 terminal alarm loop, E2 fuse alarm loop, audible alarm loop, and visual alarm loop from FADP (Fig. 9) to office alarm connection points using ABAM-type cable or 24AWG solid twisted shielded pair (ITT Part No. 600015-100-241 or equivalent).

VF AND SIGNALING CONNECTIONS

Note: Refer to Section ITTR-18-405, Chart 4, for procedures on connecting VF and signaling to each multiplex shelf.

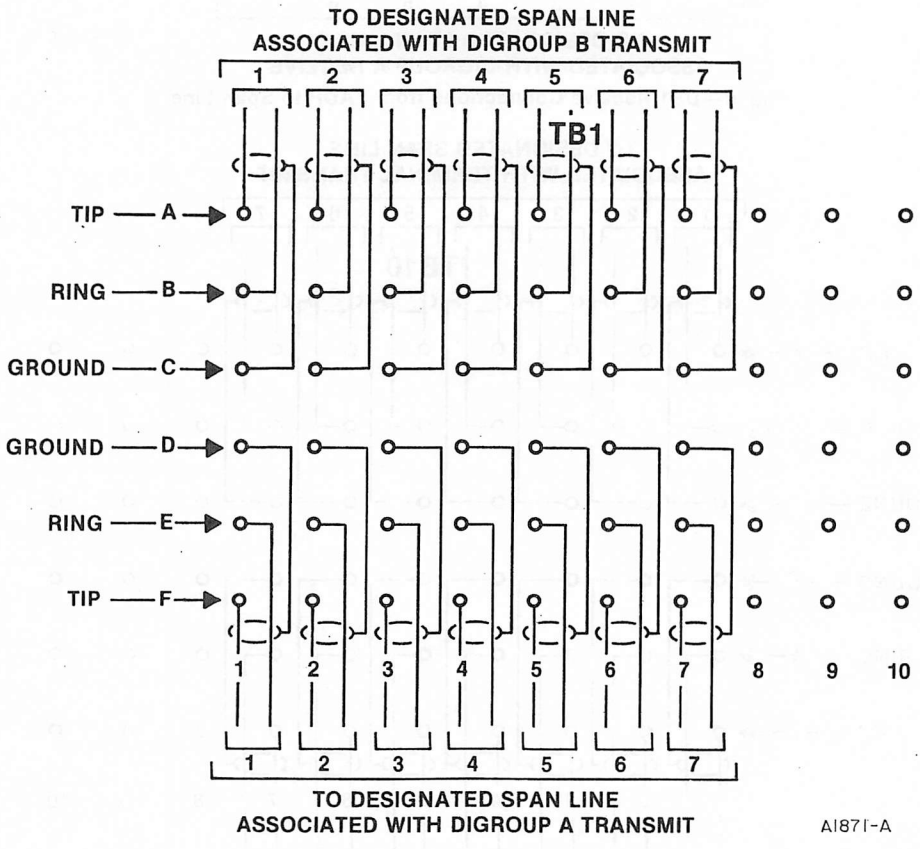

TO DESIGNATED SPAN LINE
ASSOCIATED WITH DIGROUP B TRANSMIT
1 2 3 4 5 6 7
TB1
TIP — A
RING — B
GROUND — C
GROUND — D
RING — E
TIP — F
1 2 3 4 5 6 7 8 9 10
1 2 3 4 5 6 7
TO DESIGNATED SPAN LINE
ASSOCIATED WITH DIGROUP A TRANSMIT
AI871-A

Fig. 5—DS1 Transmit Connections from FADP to Span Lines

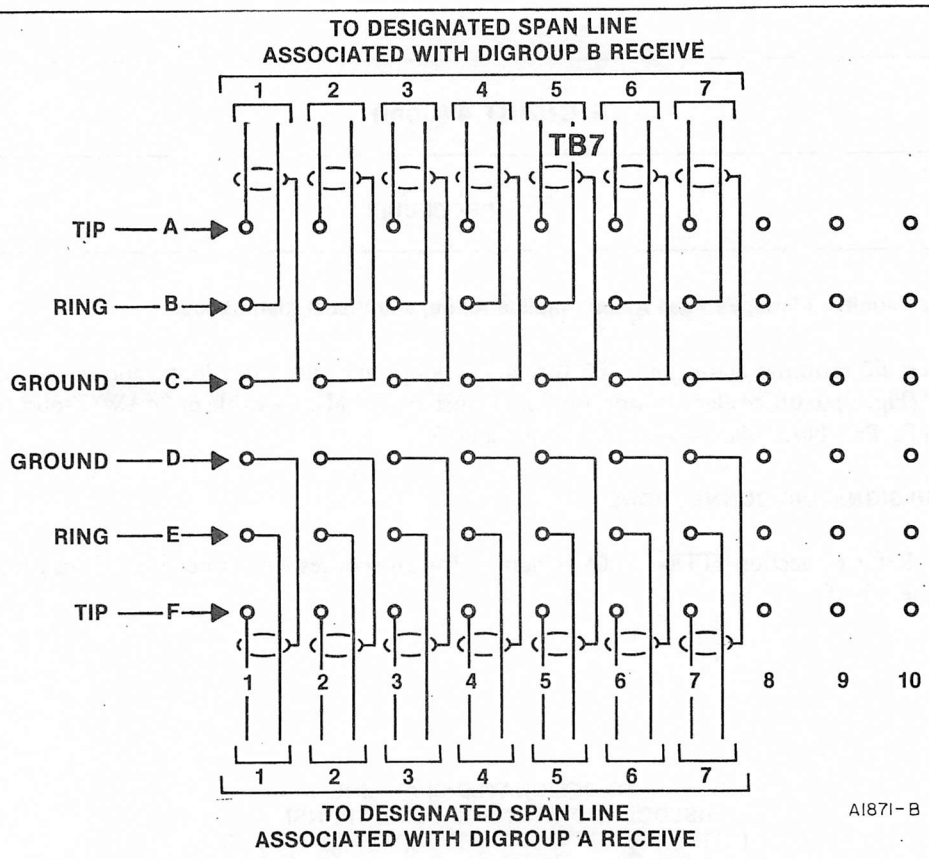

TO DESIGNATED SPAN LINE
ASSOCIATED WITH DIGROUP B RECEIVE
1 2 3 4 5 6 7
TB7
TIP — A
RING — B
GROUND — C
GROUND — D
RING — E
TIP — F
1 2 3 4 5 6 7 8 9 10
1 2 3 4 5 6 7
TO DESIGNATED SPAN LINE
ASSOCIATED WITH DIGROUP A RECEIVE
AI87I-B

Fig. 6—DS1 Receive Connections from FADP to Span Lines

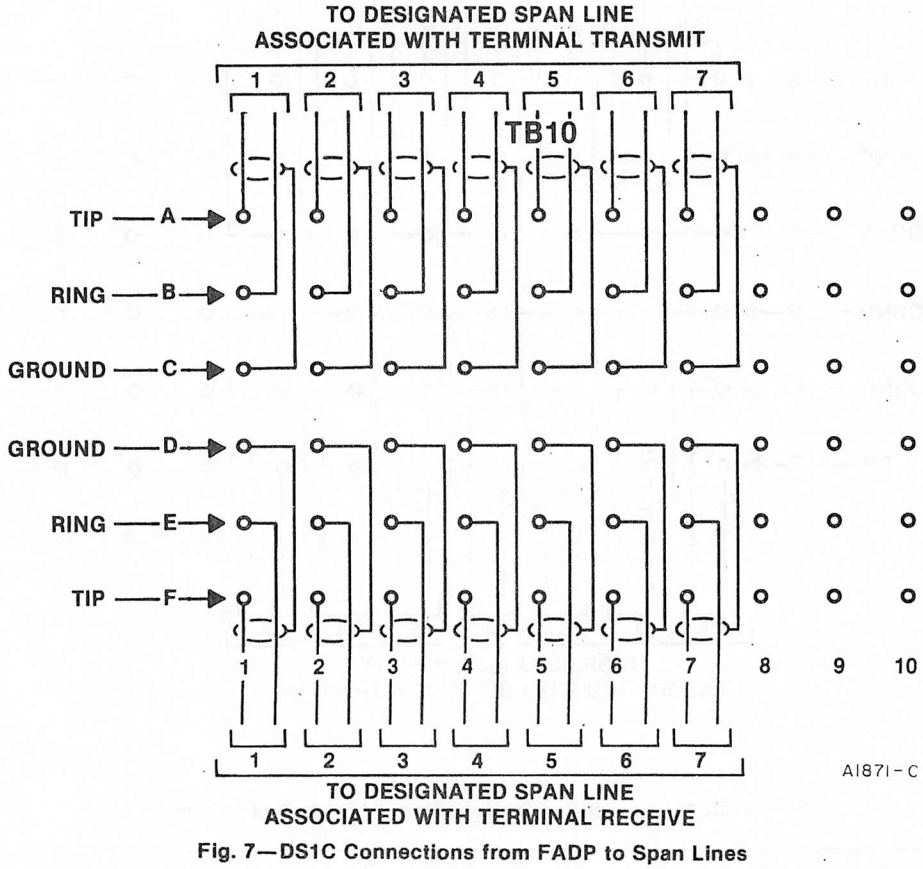

TO DESIGNATED SPAN LINE
ASSOCIATED WITH TERMINAL TRANSMIT
1 2 3 4 5 6 7
TB10
TIP — A
RING — B
GROUND — C
GROUND — D
RING — E
TIP — F
1 2 3 4 5 6 7 8 9 10
1 2 3 4 5 6 7
TO DESIGNATED SPAN LINE
ASSOCIATED WITH TERMINAL RECEIVE
AI87I-C

Fig. 7—DS1C Connections from FADP to Span Lines

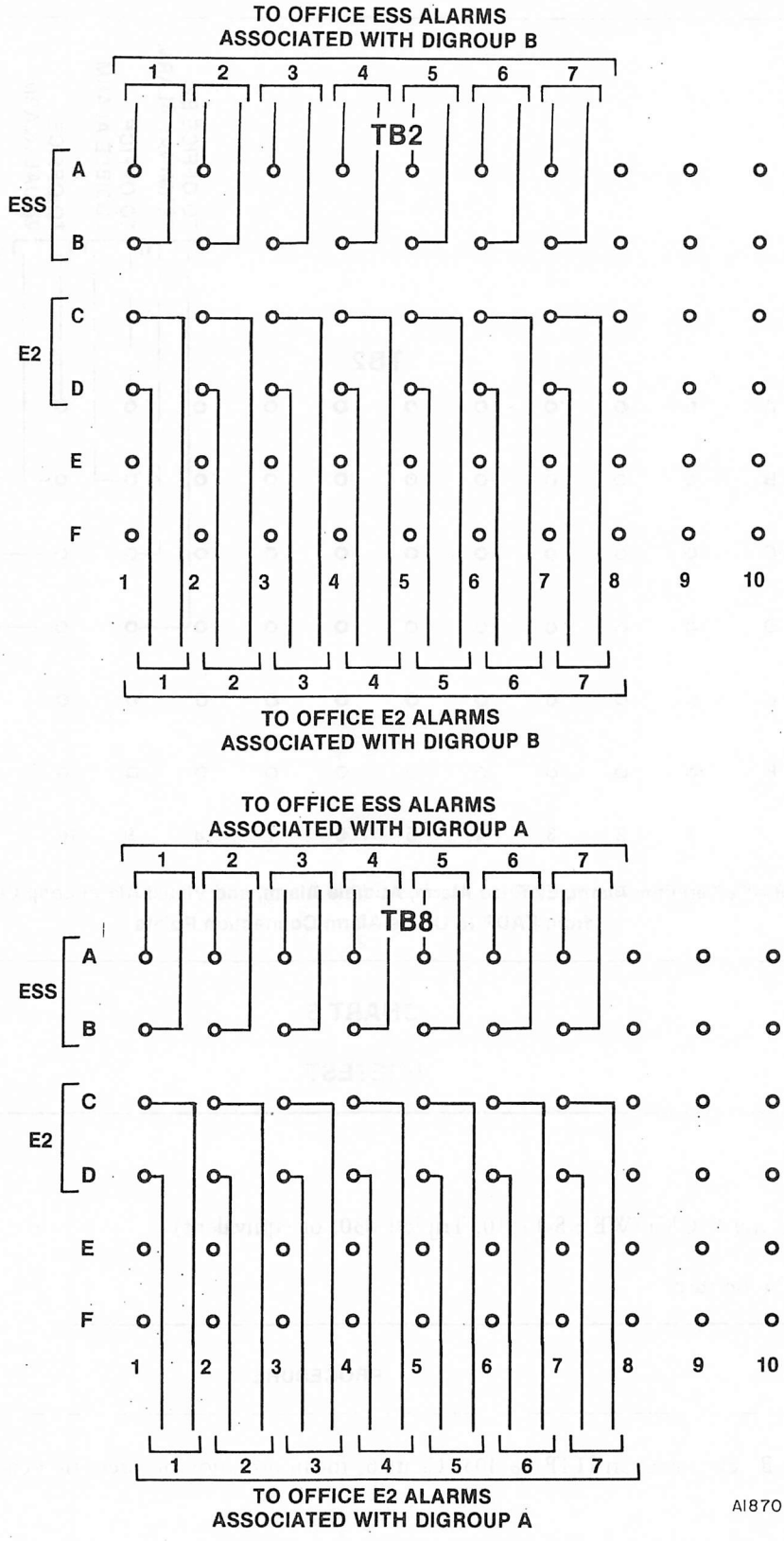


Fig. 8—ESS and E2 Alarm Connections from FADP (TB2 and TB8) to Office Alarms

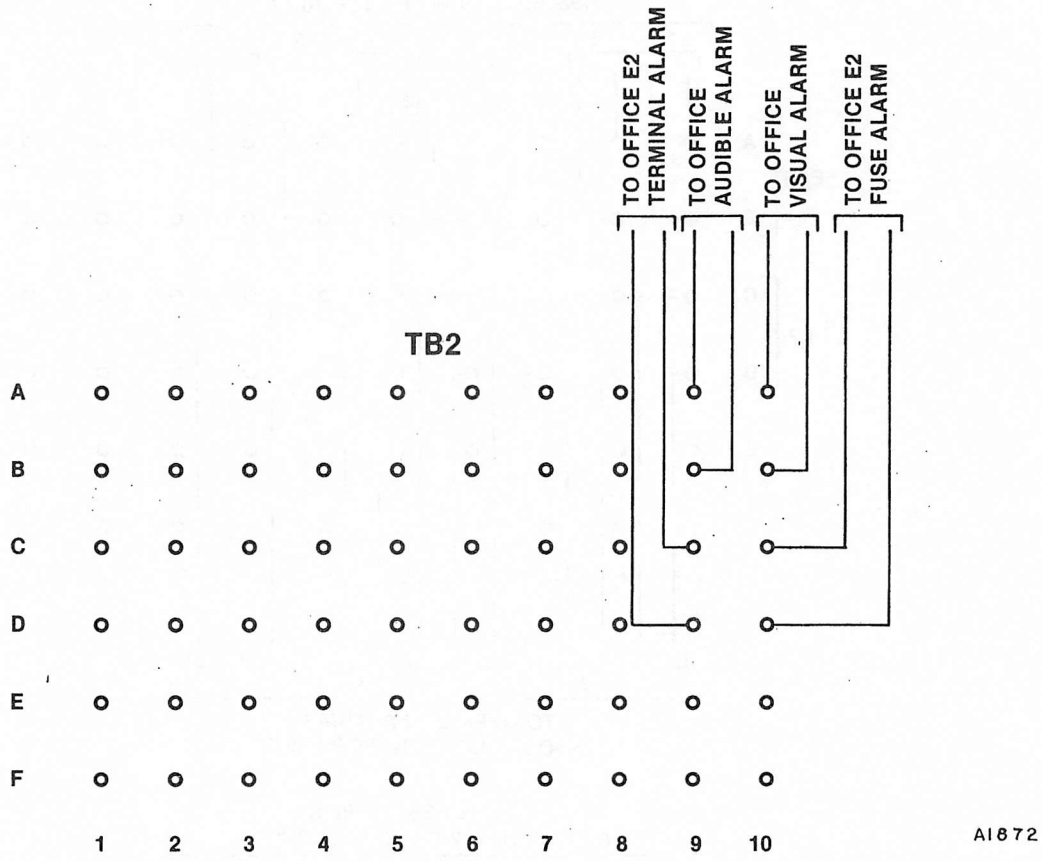


Fig. 9—E2 Terminal Alarm, E2 Fuse Alarm, Audible Alarm, and Visual Alarm Loop Connections from FADP to Office Alarm Connection Points

CHART 5

PRETEST

APPARATUS:

1—Volt-ohm meter (VOM) (WE KS-14510, Triplett 630, or equivalent)

1—Open GMT-type fuse

STEP	PROCEDURE
	Note: Refer to Section ITTR-18-405, Chart 6, for information on pretesting each individual multiplex shelf.
1	Install office fuse supplying – 48V office battery to FADP.

CHART 5 (Cont)

STEP	PROCEDURE
2	With VOM set to volts dc scale, connect it across TB11-11 (+) and TB6-1 (−). ***Requirement:*** VOM reads −44 to −56 Vdc.
3	Install office fuse supplying TB to FADP.
4	With VOM set to volts dc scale, connect it across TB11-11 (+) and TB6-2 (−). ***Requirement:*** VOM reads −44 and −56 Vdc.
5	Install office fuse supplying 20-Hz ringing or 20-Hz negative superimposed ringing to FADP.
6	With VOM set to volts ac scale, connect it across TB5-9 (+) and TB5-10 (−). ***Requirement:*** With alarm and ballast unit (ABU-1), 628494, VOM reads 80 to 160 Vrms. With ABU-2, 628496, VOM reads 130 to 160 Vrms.
7	Install main fuses F1, F2, and F3 in FADP.
8	Insert an open GMT-type fuse into position F4 on FADP. ***Requirement:*** ALARM indicator on ABU turns on and office audible and visual alarm contacts in ABU are activated.
9	Repeat Step 8 for positions F4 through F26. ***Requirement:*** ALARM indicator on ABU turns on and office audible and visual alarm contacts in ABU are activated.
10	Install 1-1/3A GMT-type fuses (color code white) in positions F14, F15, and F16.
11	Install 7-1/2A GMT-type fuse (color code black/white) in position F12. ***Note 1:*** The 20-Hz ringing fuse (F13) can be either a 0.18A or a 1A fuse. Typical ringing demand for 2500 FXS channels is approximately 0.25A. Most applications would call for the 0.18A fuse. Use of the 0.18A fuse inhibits thermistor protection normally provided by the ABU. Consequently, a ringing failure in any multiplex shelf will open the 0.18A fuse and cause a loss of ringing supply to all other shelves fused by the FADP. If thermistor protection is desired, the 1A fuse should be used. A ringing failure in any multiplex shelf digroup is protected by a thermistor and will result in a ringing failure of the affected digroup only. ***Note 2:*** Under no circumstances should the rating of the 20-Hz ringing fuse exceed that of office ringing supply.
12	Select appropriate 20-Hz ringing fuse (F13) per the above notes and install it in position F13.

CHART 5 (Cont)

STEP	PROCEDURE
13	Stick corresponding color dot (0.18A - yellow; 1A - gray) to front panel of FADP directly over black color dot under position F13. ***Note:*** Do not install fuses in remaining positions F4 through F11 and F17 through F26 at this time. Fuses should be installed when power is needed for associated multiplex shelf, or when required, in the case of spare positions.